U.S.S.N. 09/683,605   7   201-0378 (FGT 1543 PA)

REMARKS

In the Non-Final Office Action of December 29, 2003, claims 4-9, 12-15, 22, and 23 are pending. Claims 9 and 22 are allowed. Claims 4-8, 12-15, and 23 stand rejected. Claims 1-3, 10-11, 16-21 have previously been canceled. Claims 4, 7-9, 12, 22, and 23 are independent claims from which all other claims depend therefrom. Claims 24-26 are newly added claims.

Claims 4-6, 12, and 14-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Byon (USPN 5,847,472) in view of Okada (2002/0091474).

Claims 4 and 12 are similar and will therefore be discussed together. Claim 4 recites a restraints control module (RCM) having a memory device, a controller, and a comparator. The memory device stores a deployment time of a deployment event. The controller determines when to deploy a restraint, stores the deployment time, and stores in the memory device a fault time corresponding to the deployment time. The comparator compares the deployment time with a fault time and determines whether the fault time corresponds with the deployment time. Claim 12 also recites an RCM with a memory device and controller similar to that of claim 4. The RCM of claim 12 further includes an indicator. The controller of claim 12 stores a deployment start time and duration, a fault time, and signals the indicator when the fault time corresponds to the deployment start time and duration.

The RCMs of claims 4 and 12 are capable of determining when a fault time corresponds with a deployment time, a deployment start time, and a deployment duration. This information assists in determining whether an impact sensor, a restraint, or an RCM needs to be serviced or replaced. As such, the RCMs of claims 4 and 12 aid in preventing the use of improperly functioning impact sensors, restraints, and RCMs.

The current Office Action states that Byon does not teach a comparator for comparing a deployment time with a fault time and determining whether the fault time corresponds with the deployment time. Applicants agree. However, the Office Action states that Okada teaches tracking down the relationship

between the operation state of the airbag and the failure of the operation control section of the airbag, and refers to paragraph [0006]. Applicants, respectfully, submit that in paragraph [0006] Okada discloses estimating failure occurrence and collision occurrence, not failure time and deployment time.

Okada determines the elapsed time between a failure occurrence of an accelerometer associated component, such as a switch or squib, and a collision occurrence. In other words, Okada determines the time between when an accelerometer switch or squib fails and when a collision with a host vehicle occurs. This is unlike the RCMs of claims 4 and 12, which determine when a fault time corresponds with a deployment time of a restraint. Clearly, deployment time of a restraint is not the same as the time of a collision. A restraint may be deployed before or after the time of a collision. Thus, Byon and Okada alone or in combination do not teach or suggest each and every element recited in claims 4 and 12 and the prima facie case of obviousness has not been met, MPEP 2143, therefore claims 4 and 12 are novel, nonobvious, and are in a condition for allowance.

In regards to claim 15, the Office Action also states that neither of the prior art references teach a memory device that is uneraseable, unresettable, and unoverwritable. Applicants agree. The Office Action states that it would have been obvious to substitute a storage device for another storage device. Applicants, respectfully, traverse.

Claim 15 depends from claim 12 and further recites that the information stored in the memory device of claim 12 is uneraseable, unresettable, and unoverwritable.

As stated in the Responses of July 3, 2003, and September 16, 2003, Byon teaches away from the memory devices of claims 4 and 12. Byon discloses a memory that is _preferably_ erasable and that can be reset or cleared. Also, nowhere in Byon is there any suggestion to the contrary. Thus, in view of Byon it would not have been obvious to utilize the memory device of claim 15.

Okada discloses in paragraph [0038] the use of a memory, such as EEPROM. EEPROM stands for Electrically Erasable Programmable Read Only Memory. Nowhere in Okada is an uneraseable, unresettable, and unoverwritable memory disclosed or suggested. Thus, Okada also does not suggest the use of a memory device as that claimed in claim 15. Thus, it is not inherent or obvious in view of Byon and Okada to use a memory that prevents the data from being reset, erased, and overwritten. Therefore, since neither Byon nor Okada teach or suggest the use of an uneraseable, unresettable, and unoverwritable memory device, and since it would not have been obvious to replace the memory devices of Byon and Okada with the memory device of claim 15, claim 15 is also novel, nonobvious, and is in a condition for allowance.

In regards to claims 5 and 6, the current Office Action states that Byon does not teach indicating when a deployment time corresponds with a fault time and that Byon and Okada do not teach the indicator disclosed by the applicants. Applicants agree. The Office Action, however, states that Okada teaches tracking down the relationship between the operation state of the airbag and the failure of the operation control section of the airbag and teaches the data indication no matter the situation. The Office Action refers to paragraphs [0006] and [0007] of Okada.

Claim 5 depends from claim 4 and recites an indicator that is electrically coupled to the controller and indicates when a deployment time corresponds with a fault time. Claim 6 recites types of indicators that may be utilized for the indicator of claim 5.

With regards to paragraph [0006] of Okada, as stated above, Okada does not determine whether a fault time corresponds with a restraint deployment time, but rather determines the elapse in time between a fault occurrence and a collision occurrence.

With regards to paragraph [0007] of Okada, Okada states that due to drastically varying acceleration waveforms it is difficult to make an assumption about the details of a vehicle collision. Okada further states that the apparatus

described in Okada provides less data indicating the state in which the vehicle collides and that it is not easy to track down the cause of an accident. Paragraph [0007] is directed to the state of a vehicle at the time of a collision and the cause of a collision, both of which are irrelevant as to the limitations of claims 5 and 6. The state of the vehicle, or in view of Okada, the acceleration of the vehicle at the time of collision, the cause of the collision, and any comparison thereof are undoubtedly different than the indication when a deployment time corresponds with a fault time. Fault times refer to, for example, the times when faults occur within a restraint, a sensor, or an RCM. Deployment times refer to the times when restraints are deployed. As stated above, a fault time and a deployment time are not the same as a time when a vehicle collides with an object. Also, without question, the time of an event is not the same as the cause of an event or, in this case, the cause of a different event.

The Office Action states that it would have been obvious to one of ordinary skill in the art to substitute any means for another means to perform the same function. The Applicants submit that Byon and Okada do not teach or suggest an indicator or the indication of when a deployment time corresponds with a fault time, thus the components of Byon and Okada do not perform the same function as that of the RCMs of claims 5 and 6. In addition, neither Byon nor Okada teach or suggest use of any indicator. Thus, no substitution can be made. Therefore, since neither Byon nor Okada alone or in combination teach or suggest the use of an indicator for indicating when a deployment time corresponds with a fault time, claims 5 and 6 are also novel, nonobvious, and are in a condition for allowance.

Claims 7-8, and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Byon in view of Otsu (USPN 6,231,075).

Claims 7-8 and 13 are similar and will therefore be discussed together. Claim 7 recites an RCM that includes an indicator that is electrically coupled to a controller. The indicator continuously indicates that the RCM has been on a vehicle that has been involved in a collision, until such time when the RCM is

serviced or replaced. Claim 8 recites an RCM similar to that of claim 7, but further recites an indicator that permanently indicates that the RCM has been on a vehicle that has been involved in a collision and does not include the limitation of indicating until such time when the RCM is serviced or replaced. Claim 13 also recites an RCM such as that recited in claim 8, but further includes the indication of when a fault time corresponds with a deployment start time.

The Office Action states that Byon does not teach an indicator electrically coupled to a controller and the indicator continuously indicating that the RCM has been on a vehicle that has been involved in a collision until such time when the RCM is serviced or replaced. Applicants agree. The Office Action, however, states that Otsu teaches a controller continuously monitoring the waveform of the collision signal provided by the collision sensor after the squib has been initiated.

Applicants submit that continuously monitoring a waveform of a collision signal is not the same as continuously indicating that an RCM has been on a vehicle that has been involved in a collision. Otsu monitors the collision sensor waveform to determine whether a collision has occurred, whereas the RCM of claims 7-8 and 13 indicate that an RCM has been on a vehicle that has been involved in a collision such that the RCM or some other safety related device may be serviced or replaced. Monitoring a collision signal is clearly different than indicating the status of an RCM. Thus, neither Byon nor Otsu alone or in combination teach or suggest each and every element of claims 7-8 and 13 and the prima facie case of obviousness has not been met, MPEP 2143, therefore, claims 7-8 and 13 are novel, nonobvious, and are in a condition for allowance.

Applicants therefore submit that since each and every limitation of claims 4 and 12 are not taught or suggested by Byon, Okada, and Ostu alone or in combination and since claims 5-6 and 13-15 depend from claims 4 and 12, respectively, claims 5-6 and 13-15 are also novel, nonobvious, and are in a condition for allowance for at least the same reasons.

U.S.S.N. 09/683,605   12   201-0378 (FGT 1543 PA)

Claim 23 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Byon. Note that claim 23 has been amended not for patentability reasons but rather to clarify the term "continuously indicating" by further including the limitation of utilizing information from an uneraseable, unresettable, and unoverwritable memory.

As admitted to in the Office Action, Byon does not teach the use of a memory device that is uneraseable, unresettable, and unoverwritable. This limitation is included in claim 23 to clarify that the RCM continuously indicates a fault in response to a deployment event. The continuous indication is at least partially due to the use of the uneraseable, unresettable, and unoverwritable memory. Thus, claim 23 is also novel, nonobvious, and is in a condition for allowance.

Claims 24-26 are newly added claims, which include limitations that are not taught or suggested by any of the above relied upon references. Note that the limitations of claims 24-26 were contained within the originally filed claims 2, 11, and 18. Claims 2, 11, and 18 were previously canceled with the understanding that the application would be allowed with their cancellation, although the Applicants believed that the subject matter contained therein was novel and allowable. Claim 24 includes the limitation of a controller storing a deployment end time of a restraint. Claim 25 includes the limitation of storing the operating time of a restraints control module. Claim 26 include the limitations of indicating whether an RCM has been on a vehicle that has been involved in a collision and the indication being uneraseable, unresettable, and unoverwritable. Applicants have shown in prior Responses that the limitations of claims 24 and 25 are clearly not taught or suggested by Byon. Applicants submit that the limitations of claims 24 and 25 are also not taught or suggested by Okada or Ostu. Applicants have also shown in prior Responses and in the above presented arguments that the limitations of claim 26 are not taught or suggested by any of the relied upon references.
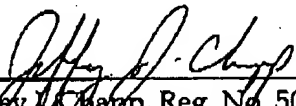
U.S.S.N. 09/683,605   13   201-0378 (FGT 1543 PA)

In light of the amendments and remarks, Applicants submit that all objections and rejections are now overcome. The Applicants have added no new matter to the application by these amendments. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments, she is respectfully requested to call the undersigned attorney.

Respectfully submitted,

ARTZ & ARTZ P.C.

Jeffrey J. Knapp, Reg. No. 50,579
28333 Telegraph Road, Suite 250
Southfield, MI 48034
(248) 223-9500

Dated: March 9, 2004